

## Lesson 1



Four doe in woodland

# Adapted to Woodlands

Students observe a wall map of California habitats to locate where the animals live that are presented in the leveled reader *California Connections: Adapted to Woodlands*. The reader provides background information and photographs that introduce students to three fascinating animal species. These three animals—ermine, mule deer, and cowbird—serve as examples throughout the unit and provide the context for learning about inherited characteristics.

This lesson provides a springboard for students' understanding of inherited traits, one of the big ideas of this unit. Students list traits the three animals inherit and discuss how these traits are essential to survival. Students look at photographs of the ermine and mule deer in scenes

where they blend in with their natural habitat and in scenes where they are observed in the same habitat after it has been changed by human activity.

Class discussions focus on how human activity changes habitats and can, over time, affect inherited traits that influence an organism's survival.

### Background

Animals exhibit many traits, or inherited characteristics, that help them to survive. The traits of ermine, mule deer, and brown-headed cowbirds help them survive in woodlands.

The ermine's brown coat, for example, blends with tree trunks.



## Learning Objective

Identify some of the characteristics that organisms inherit from their parents.

Recognize that some of these characteristics are essential to the survival of the organisms.



Ermine may use tree roots or hollow logs for dens. They also climb trees to escape predators and to spot prey. The ermine habitat depicted is a subalpine conifer forest with a snowy climate at an elevation of 8,000 to 10,000 feet.

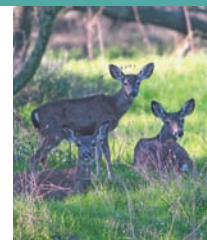


Long-tailed weasel

Coat change is triggered by the shortening or lengthening daylight hours, falling or rising temperature, and the amount of snow cover. In winter, ermine can hunt under the snow. They keep warm by stockpiling their kill of mice for food and lining their nests with the hair.

Mule deer fawns' brown coats also provide camouflage against tree trunks. Their white spots resemble dappled sunlight, filtered through leaves. Their mothers eat woody plants, both to support their own energy needs and to make milk for their fawns. Mule deer live in wooded foothills throughout California. While they prefer oak woodlands, this species also feeds from the orchards, golf courses, parks, and yards that have replaced them. In Yosemite, the mule deer migrate from higher to lower elevation around the time of the first snowstorm. In Yosemite Valley, the deer have grown accustomed to human handouts; elsewhere, they may seek orchards or hayfields in the winter.

The cowbirds seek tall trees within which to perch. Cowbirds prefer the lush vegetation found near streams. Since they follow cattle to feed, cowbirds have increased their range as riparian woodlands have been converted into pastures. While cowbirds feed in pastures, they lay their speckled eggs in nests built in trees. The host birds whose nests they most often parasitize live on forest edges. Females seeking nests in which to lay their eggs often perch in a tree or hide in underbrush, waiting until a nest is unattended.



## Key Vocabulary

**Adaptation:** A change in the body or behavior of a species of living things resulting from a change in the environment.

**Camouflage:** Coloring that makes it possible for an animal to blend with its surroundings, making it harder to see.

**Climate:** The kind of weather an area has over a long period of time.

**Habitat:** The place where a living thing lives and meets its needs.

**Host:** A living thing on which another living thing lives or obtains resources.

**Predator:** An animal that kills and eats other animals.

**Speckled:** Covered with small spots.

**Trait:** A characteristic way a living thing looks or acts.

**Woodland:** Land partly covered with trees.

## Toolbox



### Summary of Activities

Students read and discuss *Adapted to Woodlands* and list inherited traits for three highlighted species. Students view photographs of animals in and out of their usual habitats and discuss how human activity may change habitats and can influence an organism's survival.



### Instructional Support

See Unit Resources, page 24

#### Prerequisite Knowledge



##### Students should know about:

- animal life cycles, including reproduction; animals produce offspring that are like themselves.
- differences between animal life cycles; deer and ermine babies are born, and birds hatch from eggs.

#### Advanced Preparation



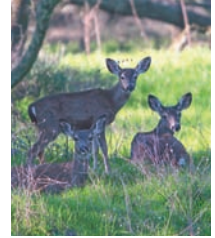
##### Gather and prepare Activity Masters.

##### Gather and prepare Visual Aids:

- Prepare transparencies.

##### Prepare the Inherited Traits Chart:

- Follow the instructions and sample provided in Step 3 of the procedures. Make the chart on butcher paper, and tape on the Board for use in this and Lesson 2. Do not include the sample answers on the chart.



## Materials Needed



### Reader:

- *California Connections: Adapted to Woodlands*, provided separately

### A-V equipment:

- Overhead or LCD projector, screen

### Class supplies:

- Pencils, chart paper

## Visual Aids



### Transparencies:

- White Ermine in Snow and White Ermine After Early Snow Melt, Visual Aid #1
- Mule Deer Fawn Hidden Under Tree and Without Tree or Grass Cover, Visual Aid #2

### Wall Maps:

- Habitats, provided separately

## Duration



### Preparation Time

20 min.

### Instructional Time

45 min.



## Safety Notes

None

## Activity Masters in the Supporting Materials (SM)

### Inherited Traits

SM, Pages 7–8  
One per student

# Procedures

## Vocabulary Development

Use the **Unit Dictionary** and the **Vocabulary Word Wall Cards** to introduce new words to students as appropriate. These documents are provided separately.

### Step 1

Display the California wall map **Habitats**. Distribute a copy of the leveled reader, **California Connections: Adapted to Woodlands** to each student. Explain to students that just as people adapt to their environment (*wearing more clothes in the winter, wearing hats in the sun*), animals also adapt to their environment. Read **Adapted to Woodlands** aloud. Have students quietly read along with you. Discuss each picture with the students. (*Note: Point to the Sierra Nevada Mountains when you discuss the ermine; and, the Yosemite Valley when reading about the mule deer.*)

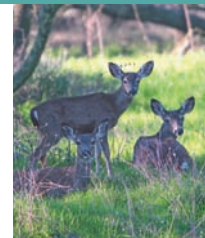
### Step 2

Introduce the word “trait” (a characteristic way a living thing looks or acts) using the Key Vocabulary word wall cards. Ask students to provide some examples of traits they learned about in **Adapted to Woodlands**. (*Ermine have brown fur in summer and white fur in winter; mule deer have long legs and sharp hooves; cowbirds have speckled eggs.*) Tell students that they can look in the reader to get some ideas.

### Step 3

Ask students to identify traits of ermine from **Adapted to Woodlands**. Use the Inherited Traits chart on the board to list the traits the students identify for the ermine. Repeat this process for mule deer and cowbirds.

Animal	Inherited Traits
Ermine	<ul style="list-style-type: none"><li>■ brown coat in summer</li><li>■ white coat in winter</li><li>■ sharp teeth</li><li>■ sharp claws</li></ul>
Mule Deer	<ul style="list-style-type: none"><li>■ big ears and big eyes</li><li>■ brown fur</li><li>■ fawns are spotted</li><li>■ sharp hooves</li><li>■ long legs</li></ul>
Cowbird	<ul style="list-style-type: none"><li>■ females are brownish grey</li><li>■ males are black with a brown head</li><li>■ hatchlings have grey fuzz</li><li>■ hatchlings are large</li><li>■ hatchlings mouth is red inside</li></ul>



### Step 4

Project the transparency showing the **White Ermine in Snow** and **White Ermine After Early Snow Melt** (Visual Aid #1). Discuss what they think will happen to a white ermine against a brown background. Ask, “How might the way ermine hunt—or are hunted by predators—be different?” (*Ermine might not be able to hunt as well because prey could see them coming. Predators might see and catch ermine more easily.*)

### Step 5

Project the transparency showing the **Mule Deer Fawn Hidden Under Tree** and **Without Tree or Grass Cover** (Visual Aid #2). Explain that woodlands are being developed into pastures, golf courses, areas with new houses, and other places where female mule deer will find fewer trees and shorter grass to hide their fawns. (*Note: If possible relate these examples to changes that are being made in your local area.*) Ask students, “What do you think will happen to fawns with bright white spots in areas with fewer trees or less grass?” (*Predators might see and catch fawns more easily than in undisturbed areas.*)

### Step 6

Collect *Adapted to Woodlands* for later use.

### Step 7

Distribute a copy of **Inherited Traits** (Lesson 1 Activity Master) to each student. Explain to students that they should use the words listed at the top of each section to complete the sentences.

Collect the copies of **Inherited Traits** for assessment.

# Lesson Assessment

## Description

Lesson 1 teaches students to identify some of the characteristics or traits that organisms inherit from their parents and to recognize that some of these characteristics are essential to the survival of the organisms. Class discussions in Steps 3 and 4 indicate students' knowledge of characteristics that animals inherit from their parents. Student responses to focus questions in Steps 4 and 5 reveal their understanding that traits that help an animal survive in one habitat may not help that animal survive in a habitat altered by humans. As students complete **Inherited Traits** (Lesson 1 Activity Master) in Step 7 they demonstrate understanding that traits are inherited from parents and some of these traits are essential to an organism's survival.

## Suggested Scoring

Use the Answer Key provided on page 33–34 to review correct answers. The total score possible is 30 points.



## Answer Key and Sample Answers

## Inherited Traits

Lesson 1 Activity Master | page 1 of 2

Name: \_\_\_\_\_

1. Fill in the blanks using each word one time. (1 point each)

bills	ears	claws	color	big
parents	sharp	spots	wings	traits

Animal babies look like their parents in many ways. Why?

Animal parents pass on traits to their offspring.

Ermine babies get sharp teeth and claws from their parents. They get a coat that changes color, too.

Mule deer give their fawn big ears, big eyes, and white spots.

Cowbirds give their offspring short bills and long wings.

2. Fill in the blanks using each word one time. (1 point each)

eat	run	kick	hide	meeting
louder	high	other	babies	prey

Animal babies act like their parents in many ways. These traits are passed down.

Young ermine eat mice and rabbits. They sneak up on prey. They hide from predators.



## Answer Key and Sample Answers

### Inherited Traits

Lesson 1 Activity Master | page 2 of 2

Name: \_\_\_\_\_

Mule deer fawn grow up to \_\_\_\_\_ *run* \_\_\_\_\_ fast and leap  
\_\_\_\_\_ *high* \_\_\_\_\_, and \_\_\_\_\_ *kick* \_\_\_\_\_ hard.

Cowbird hatchlings beg for food \_\_\_\_\_ *louder* \_\_\_\_\_ than other  
hatchlings. They grow up without \_\_\_\_\_ *meeting* \_\_\_\_\_ their parents.  
Females lay eggs in \_\_\_\_\_ *other* \_\_\_\_\_ birds' nests.

3. Fill in the blanks using each word one time. (1 point each)

food	camouflage	host	survive	predators
teeth	offspring	climb	parents	escape

White spots \_\_\_\_\_ *camouflage* \_\_\_\_\_ fawn, helping them hide from  
\_\_\_\_\_ *predators* \_\_\_\_\_.

Animals \_\_\_\_\_ *climb* \_\_\_\_\_ trees to \_\_\_\_\_ *escape* \_\_\_\_\_ from  
predators.

Sharp \_\_\_\_\_ *teeth* \_\_\_\_\_ help animals get \_\_\_\_\_ *food* \_\_\_\_\_.

Begging loudly gets cowbird hatchlings food from \_\_\_\_\_ *host* \_\_\_\_\_  
parents.

All these traits help animals \_\_\_\_\_ *survive* \_\_\_\_\_ to become  
\_\_\_\_\_ *parents* \_\_\_\_\_.

Parents pass their traits to their \_\_\_\_\_ *offspring* \_\_\_\_\_.

1

**White Ermine in Snow and White Ermine After Early Snow Melt**

Visual Aid — Transparency

**White Ermine**



## Mule Deer Fawn





